NEC

Versa M320

Disassembly Manual

NEC

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Overview

This document contains step-by-steps disassembly instructions for the Versa M320 chassis. The instructions are illustrated where necessary with images of the part that is being removed or disassembled. Furthermore, the screws that are removed are shown next to the image of the parts themselves.

NEC reserves the right to make changes to the Versa M320 chassis without notice.

Technician Notes

Only technicians authorized by NEC Computers International BV should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module level repair. Because of the complexity of the individual boards and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard. Any indication of component replacement or printed wiring board modifications may void any warranty or exchange allowances.

Disassembly Instructions

When disassembling the system unit, follow these general rules:

- Do not disassemble the system into parts that are smaller than those specified in the instructions.
- Label all removed connectors. Note where the connector goes and in what position it was installed.
- Turn off the power and disconnect all power and all options.

Reassembly Instructions

Reassembly is the reverse of the disassembly process. Use care to ensure that all cables and screws are returned to their proper positions. Check that no tools or any loose parts have been left inside the chassis. Check that everything are properly installed and tightened.

Required Tools

All disassembly procedures can be perform using the following tools:

- PH 0x60 Philips screwdriver
- PH 0x40 Philips screwdriver
- 4.0 x 60 Flat screwdriver
- 2.0 x 30 Flat screwdriver
- SW5,0 Spacer screwdriver
- Small tweezers
- Pin

Hazardous Voltage

There is hazardous voltage present inside the computer when it is connect to an AC supply, even when the computer's power switch is off. Exposure to hazardous voltage could cause personal injury. To avoid risk of injury, contact an Authorized Service Provider for proper (un)installation of optional hardware devices.

Avoid Electrostatic Discharge

Electrostatic electricity can easily damage circuit cards and integrated circuits (ICs). To reduce risk of damage, store them in protective packaging whenever they are not installed in your system.

Add-in cards can be extremely sensitive to ESD and always require careful handling. After removing the card from the computer, place the card flat on a grounded, static-free surface, component-side up. Use a conductive foam pad if available, but not the card wrapper. Do not slide the card over any surface.

Before you install or remove memory modules, video memory, disk drives, circuit cards or other devices, protect them from static electricity. To do so, make sure your computer's power switch is OFF. Then, unplug the computer's AC power cord. Before picking up the device you (un)install, you should wear an anti-static wrist wrap (available at electronic supply stores). Be sure to connect the wrist wrap to an unpainted metal portion of the computer chassis. As an alternative, you can dissipate electrostatic build-up by touching an unpainted metal portion of the computer chassis with one hand. Then touch the device you are (un)installing with the other hand, and maintain continuous contact with it until it is (un)installed in the computer.

Power Supply Unit

Under no circumstances should you attempt to disassemble the power supply. The power supply contains no user-serviceable parts. Inside the power supply are hazardous voltages that can cause serious personal injury. Always return a defective power supply to your dealer.

WARNING
Ensure that the computer is disconnected from its power source and from all telecommunications links, networks, or modem lines whenever the chassis cover is removed. Do not operate the computer with the cover removed.

AVERTISSEMENT
Assurez-vous que le système est débranché de son alimentation ainsi que de toutes les liaisons de télécommunication, des réseaux, et des lignes de modem avant d'enlever le capot. Ne pas utiliser le système quand le capot est enlevé.

WARNUNG
Das System darf weder an eine Stromquelle angeschlossen sein noch eine Verbindung mit einer Telekommunikationseinrichtung, einem Netzwerk oder einer Modem-Leitung haben, wenn die Gehäuseabdeckung entfernt wird. Nehmen Sie das System nicht ohne die Abdeckung in Betrieb.

ADVERTENCIA
Asegúrese de que cada vez que se quite la cubierta del chasis, el sistema haya sido desconectado de la red de alimentación y de todos lo enlaces de telecomunicaciones, de red y de líneas de módem. No ponga en funcionamiento el sistema mientras la cubierta esté quitada.

WAARSCHUWING
Zorg er voor dat alle verbindingen van en naar de computer (stroom, modem netwerk, etc) verbroken worden voordat de behuizing geopend wordt. Zet de computer nooit aan als de behuizing geopend is.

AVVERTENZA
Prima di rimuovere il coperchio del telaio, assicurarsi che il sistema sia scollegato dall'alimentazione, da tutti i collegamenti di comunicazione, reti o linee di modem. Non avviare il sistema senza aver prima messo a posto il coperchio

Removing the Battery

Perform the following steps to remove the battery:

1. Make sure to power off the Versa M320.
2. Turn the unit upside down.
3. Unlock the battery and slide it out of its place as the arrow shows in Fig. 1

Fig. 1 *Removing the battery*

Removing the Hard Disk Drive

To remove the hard disk drive, first remove the battery (see *Removing the Battery*), then perform the following steps:

4. Remove the screws as shown in Fig. 2

M2x3 Silver

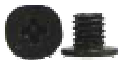
Fig. 2 *Removing the Hard disk drive cover screws*

5. Lift up the hard disk drive and disconnect it as shown in Fig. 3

Fig. 3 *Disconnecting the hard disk drive*

Note: Use extra care when disconnecting the HDD connector

6. Unscrew the four screws on both sides of the hard disk drive as shown in Fig. 4



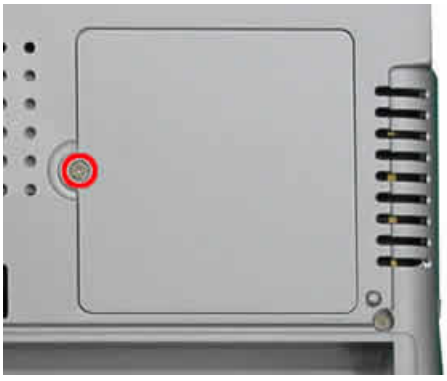
M3x4 Black

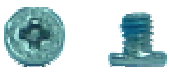
Fig. 4 *Unscrewing the hard disk drive bracket screws*

Removing the Memory Module

To remove the Memory Module, first remove the battery (see *Removing the Battery*), then perform the following steps:

1. Release the one screw retaining the memory module slot cover.





M2.4x4.5 Silver

Fig. 5 *Removing the screw retaining the memory module slot cover*

2. Unclip memory module as shown in Fig. 6

Fig. 6 *Removing the memory module*

3. Remove the memory module from its slot and put it aside.

Removing the Wireless LAN & MDC Modem Module

To remove the Wireless and MDC Modem Module, first remove the battery (see *Removing the Battery*), then perform the following steps:

1. Remove the screw retaining the mini PCI slot cover as shown in Fig. 7

M2.4x4.5 Silver

Fig. 7 *Removing the screws screw retaining the mini PCI slot cover*

2. Disconnect the wireless antenna wires from the wireless module and release the two screws retaining the MCD Modem.

M2.5x5 Silver

Fig. 8 *Wireless LAN & MCD Modem Module*

3. Unclip and remove the wireless LAN module.
4. Carefully lift up the MDC modem module.
5. Disconnect the cable attached to the MDC modem and put the modem aside.

Removing the Keyboard

To remove the Keyboard, first remove the battery (see *Removing the Battery*), then perform the following steps:

1. Use a flat screwdriver to lift up the keyboard cover as shown in Fig. 9

Fig. 9 *Removing the keyboard cover*

2. Lift up the keyboard and disconnect it from the system as shown in Fig. 10

Fig. 10 *Removing the keyboard flat cable*

Removing the optical disk drive

To remove the ODD, first remove the keyboard (see *Removing the Keyboard*), then perform the following steps:

1. Remove the screws retaining the optical drive connector as shown in Fig. 11

M2.5x4 Silver

Fig. 11 *Releasing the optical drive*

2. Remove the optical drive out from the base unit as shown in Fig. 12

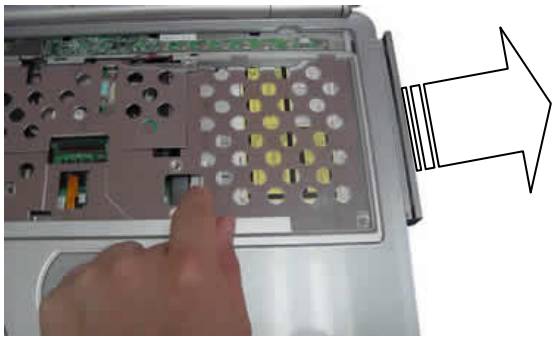


Fig. 12 *Removing the optical drive*

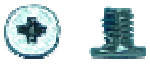
Removing the CPU

To remove the CPU, first remove the Keyboard (see *Removing the Keyboard*), then perform the following steps:

1. Remove the screw retaining the heat plate as shown in Fig. 13

Fig. 13 *Removing the screws retaining the heat plate*

A = M2.5x7 Silver



B = M2x3 Silver

Others
M2x4.5 Silver

2. Carefully remove the heat plate as shown in Fig 14

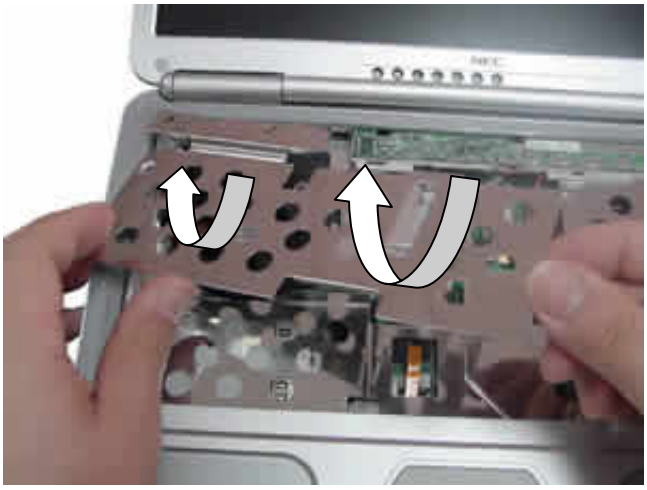


Fig. 14 *Removing the heat plate*

3. Release the screws on the LED board as shown in Fig 15

Fig. 15 *Removing the one screw LED board*

4. Lift up the LED board as shown in Fig. 16

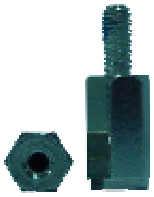
Fig. 16 *Lifting up the LED board*

5. Release the screws retaining the CPU Fan as shown in Fig. 17

Fig. 17 *CPU Fan screws*

6. Carefully lift up the CPU fan as shown in Fig. 18 and disconnect the fan connection.

M2x7.5 Silver



Hex bolt
M5x16 Silver

M2x4.5 Silver

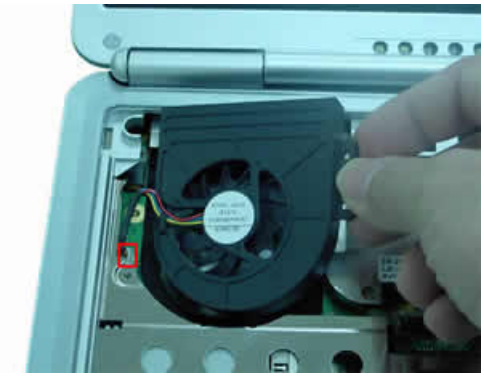


Fig. 18 *Lifting up the CPU fan*

7. Release the screws on the heat sink in descending order (4→3→2→1) as shown in Fig. 19.

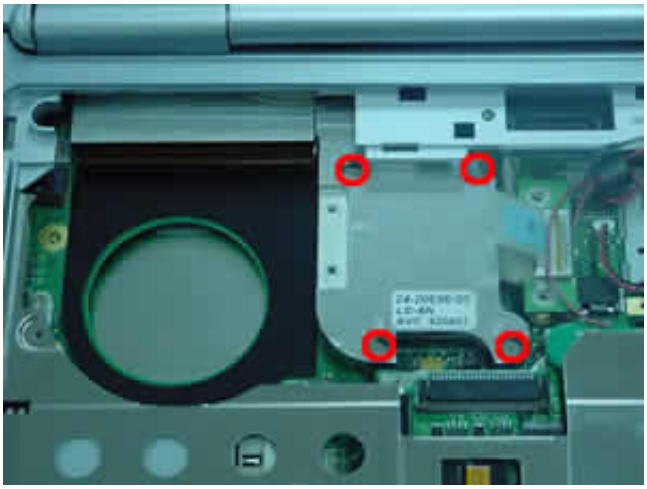


Fig. 19 *Releasing the CPU Heat Sink*

M2x10 Silver

Note: When assembly the heat sink, tighten the heat sink screws according to the ascending order (1→2→3→4). This is to ensure a well distributed pressure over the CPU and also to prevent damaging the CPU

8. Carefully remove the heat sink from the CPU socket as shown in Fig. 20

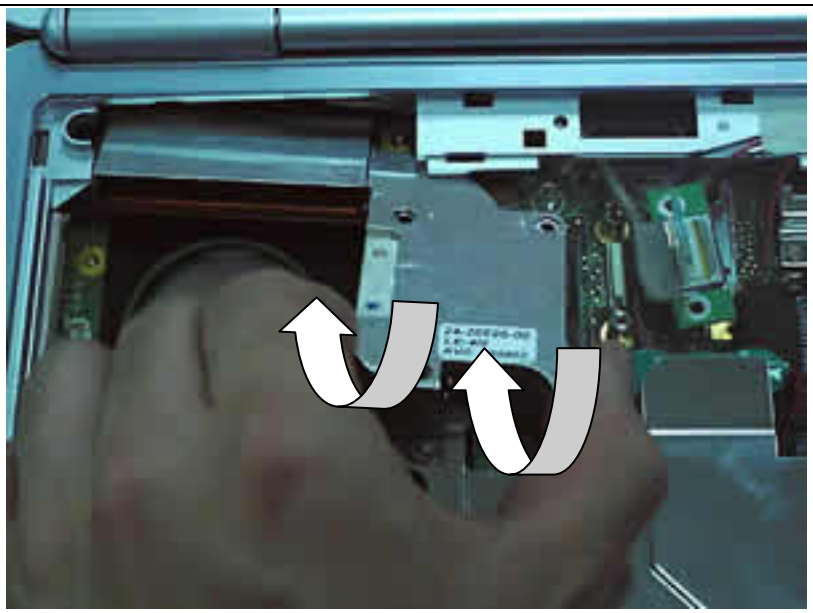


Fig. 20 *Removing the heat sink*

Note: To ease the removal of the heat sink from the CPU socket;, you might consider to disconnect LCD cable before lifting up the heat sink..

9. Use a flat screwdriver to unlock the CPU from the CPU socket and carefully lift up the CPU and put it in a safe place.

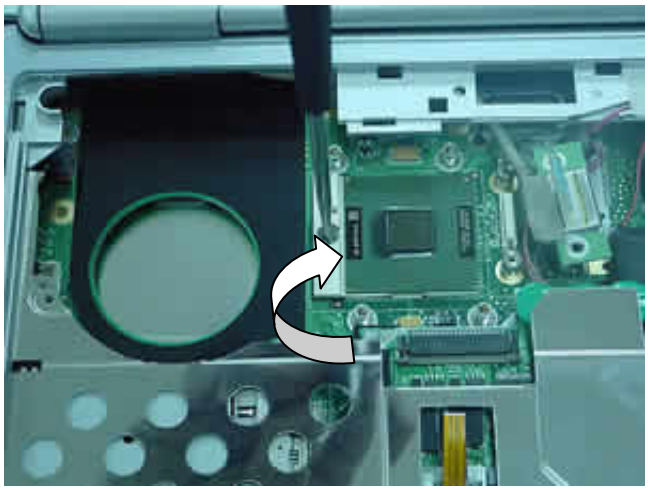


Fig. 21 *Releasing the CPU*

Removing the LCD Module

To remove LCD Module remove the keyboard (see *Removing the keyboard*), remove the CPU (see *Removing the CPU*) , then perform the following steps:

1. Remove the wireless LAN antenna coil from the wires and disconnect the Lid Switch Connection as shown in Fig. 22

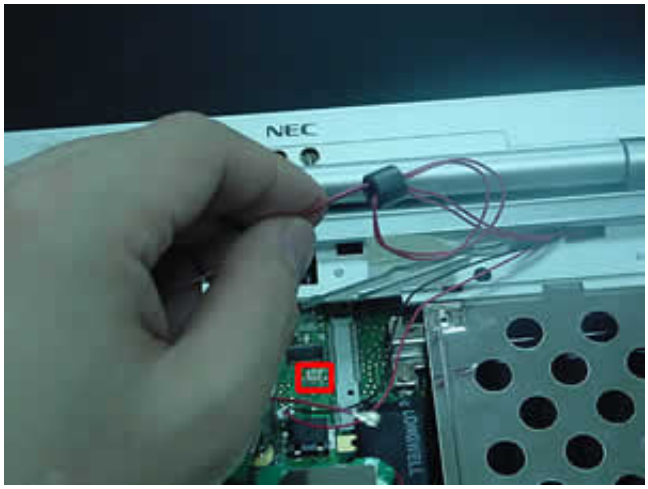


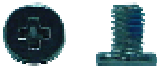
Fig. 22 *Removing the Coil*

Coil

2. Release screws on the bottom and rear of the base unit as shown in Fig. 23

Fig. 23 *Removing the LCD hinges screws*

A = M2.5x7 Silver



B = M2.5x5 Silver

3. Release the plastic hinge covers (left and right) from the base unit as shown in Fig. 24

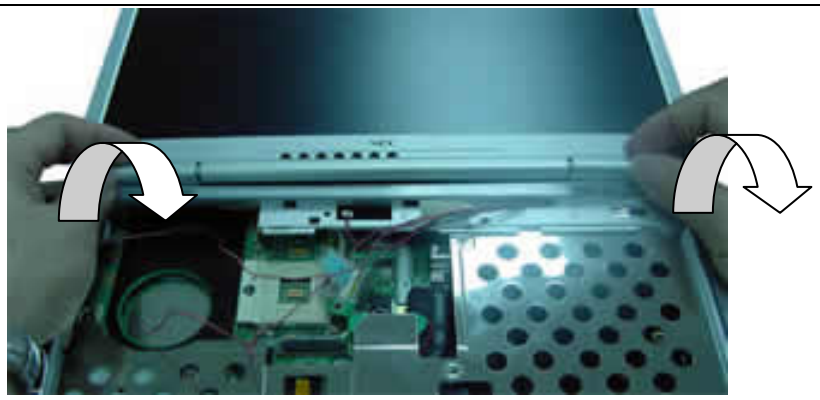


Fig. 24 *Releasing the plastic hinge covers*

4. Carefully lift up the LCD module as shown in Fig. 25 and put it in a safe place.

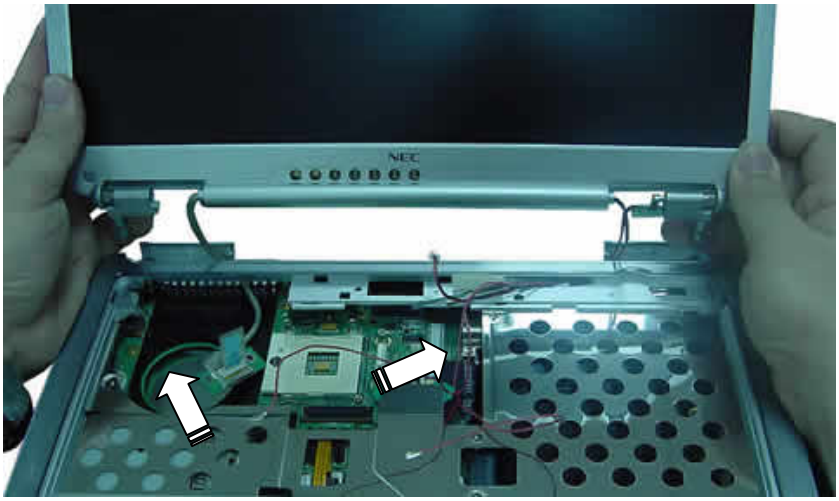


Fig. 25 *Lifting up the LCD module*

Note: When lifting up the LCD module, make sure that the LCD cable, the wireless antenna wires and the lid switch cable are freed up through the hole between the top cover and the base. When assembling the notebook, make sure that these cables are properly sited in place.

Disassembling the LCD Panel

To disassemble the LCD panel, first remove the LCD module (see *Removing the LCD Module*), then perform the following steps:

1. Use an appropriate tool to remove the rubbers on the LCD front cover as shown in Fig. 26

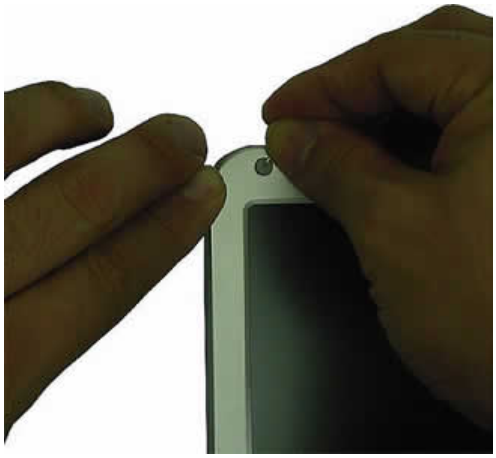


Fig. 26 *Removing the rubber covers on the LCD front cover*

2. Unscrew all screws shown in Fig. 27

Fig. 27 *Screws on the LCD Module*

A = M2x4.5 Silver

B = M2.5x5 Silver

3. Release the LCD front cover carefully and put it aside as shown in Fig. 28

Fig. 28 *Removing the LCD front cover*

4. Unscrew all screws encircled in Fig. 29

Fig. 29 *Removing the LCD panel screws*

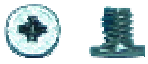
5. Carefully lift up the LCD panel together with the Inverter board and disconnect the LCD cable from the Inverter board. Disconnect the connector remaining on the left side of the inverter board. Put a side the inverter board. See Fig. 30.

A = M2x4.5 Silver

B = M2.5x5 Silver

Fig. 30 *Lifting up the LCD panel and disconnecting the inverter board*

6. Remove the screws on both sides of the LCD panel in order to release the LCD hinges as shown in Fig. 31



M2x3 Silver

Fig. 31 *Removing the LCD Panel hinges*

7. Remove the screws on both sides of the wireless antenna as shown in Fig. 32, release the wires from the adhesive tapes and put the wireless antenna aside.

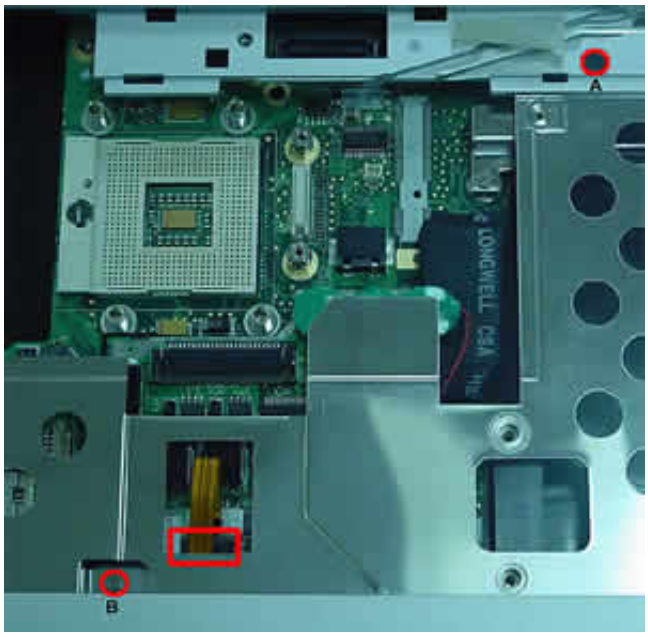
M2x4.5 Silver

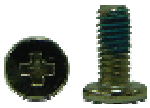
Fig. 32 *Removing Wireless Antenna*

Removing the Top Cover

To remove the Top Cover, first remove then remove the keyboard (see *Removing the keyboard*), remove the CPU (see *Removing the CPU*), remove the LCD module (see *Removing the LCD Module*) then perform the following steps:

1. Release all screws as shown in Fig. 33 and disconnect Touch Pad Connection from main board.



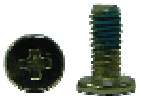


A = M2.5x7 Silver

B = M2x4.5 Silver

Fig. 33 *Removing the top cover screws*

2. Flip over the unit and remove the screws as shown in Fig. 34



M2.5x7 Silver

A = M2x4.5 Silver

Fig. 34 *Removing the top cover screws on the bottom of the system*

3. Carefully lift up, release the top cover, and put it aside.

Fig. 35 *Removing the top cover*

Note: Remember to disconnect the touch pad cable before lifting up the top cover.

Removing the Touch Pad

To remove the touch pad, first remove the top cover (see *Removing the Top Cover*), then perform the following steps:

1. On the other side of the top cover unscrew the screws on the Touch Pad assembly as shown in Fig. 36 and remove the touch pad assembly from the palm rest.

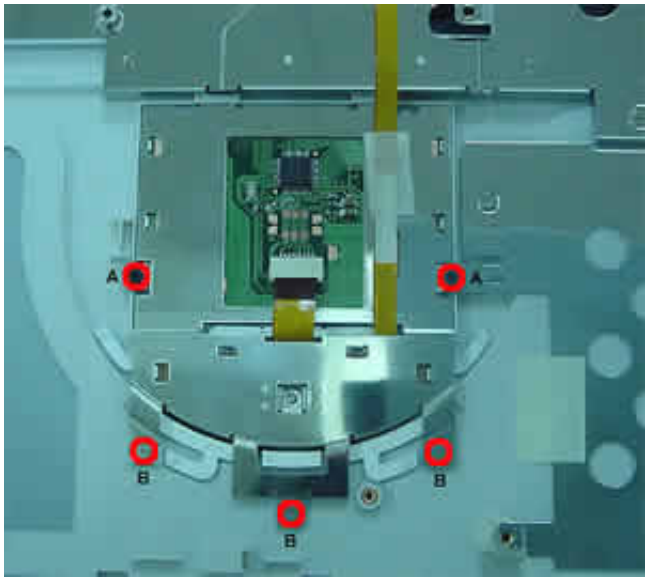


Fig. 36 *Touch Pad Assembly*

A = M2x3 Black

B = M2x3.5 Silver

Removing the Floppy Disk Drive

To remove the FDD, first remove the Top Cover (see *Removing the Top Cover*), then perform the following steps:

1. Remove the screw retaining the FDD and disconnect the FDD flat cable connector as shown in Fig. 37.

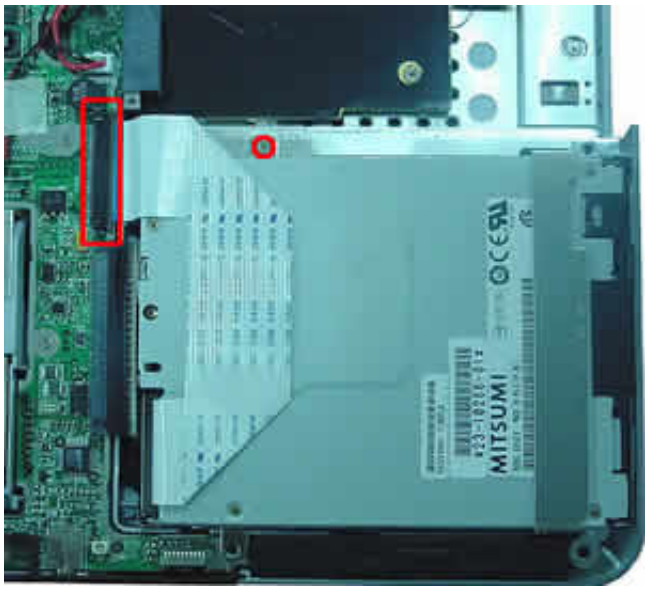


Fig. 37 *Removing the FDD*

M2x4.5 Silver

2. Carefully remove the floppy disk drive as shown in Fig. 38

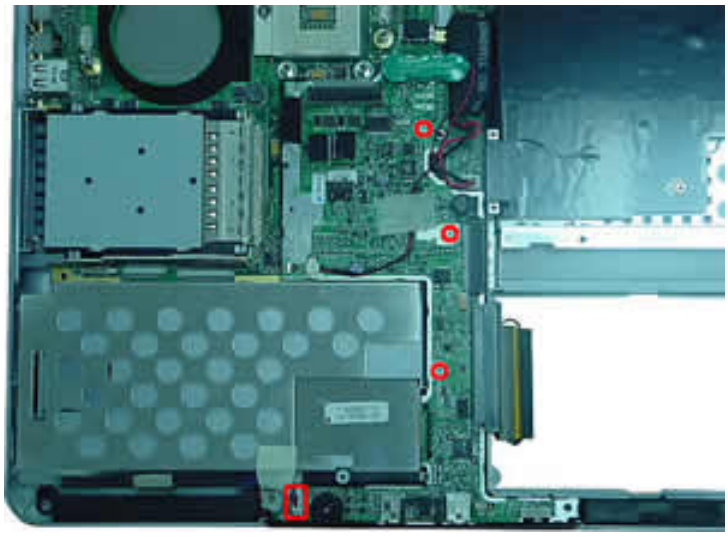
Fig. 38 *Lifting up the FDD*

Note: Be aware that there is a Mylar sticker on top of the FDD and bottom cover. Make sure that it proper sticks when assembling.

Removing the Audio Board

To remove the Audio board, first remove the Top Cover (see *Removing the Top Cover*), remove the FDD (see *Removing the FDD*) then perform the following steps:

1. Remove the screws on the Audio board and disconnect the speaker cable as shown in Fig. 39 .



M2x4.5 Silver

Fig. 39 *Audio Board screws and speakers connector*

2. Carefully remove the audio front panel as shown in Fig. 40 and put it aside.

Fig. 40 *Removing the audio front panel*

3. Lift up the audio board as shown in Fig. 41 and put it aside.

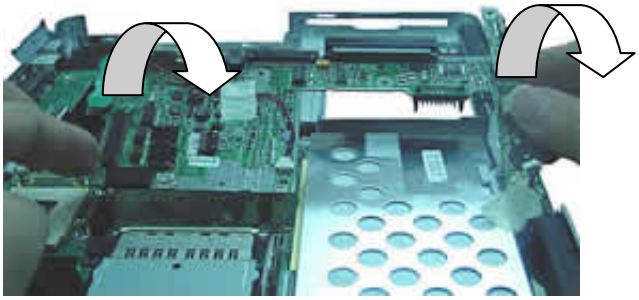


Fig. 41 *Lifting the Audio Board*

4. Disconnect and remove the RTC battery from the audio board.

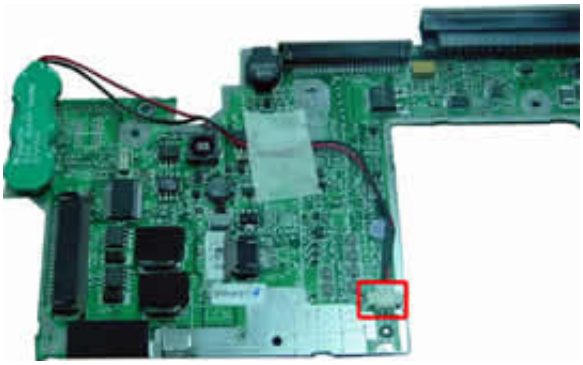


Fig. 42 *Removing the RTC Battery*

5. Separate the HDD flat cable connector from the audio board.

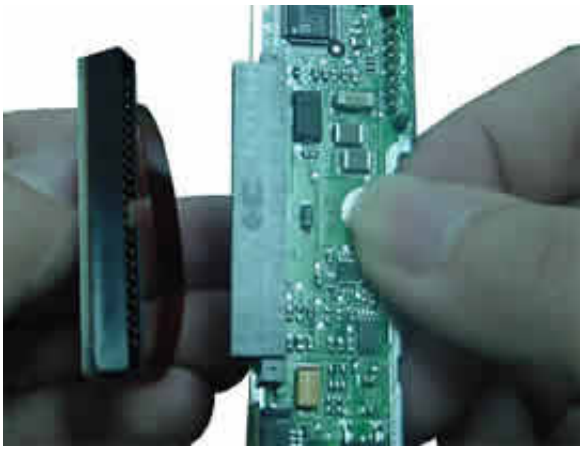


Fig. 43 *Removing the HDD flat cable connector*

Removing the Main Board

To remove the main board, first remove the top cover (see *Removing the Top Cover*), remove the FDD (see *Removing the FDD*) and remove the audio board (see *Removing the Audio Board*) then perform the following steps:

1. Remove the screws holding the main board in place as shown in Fig. 44

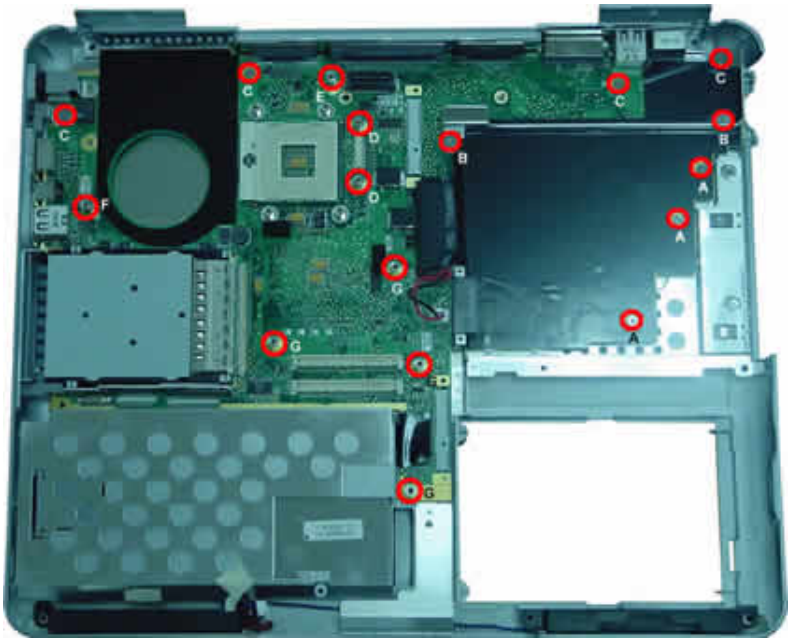
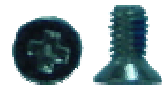


Fig. 44 *Removing the main board screws*

2. Remove all spacers on the I/O panel at the rear of the unit as shown in Fig. 45.

Fig. 45 *Remove the spacers on the I/O panel*

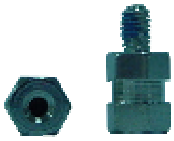
3. Lift the main board out of the system and put it aside as shown in Fig. 46



A = M2.5x5 Silver

B = M2x4 Silver

C = M2.5x5 Silver



D = M5x6 Silver

E = M5x18 Silver

F = M5x17 Silver

G = M5x12 Silver

M2.5x10 Silver

Fig. 46 *Removing Main Board*

Removing the speakers

To remove the speaker, first open the Top Cover (see *Removing the Top Cover*), remove the FDD (see *Removing the FDD*) and remove Audio Board (see *Removing the Audio Board*) then perform the following steps:

1. Remove the screws holding the audio board holder as shown in Fig. 47

M2x4.5 Silver

Fig. 47 *Screw at Audio Board Holder*

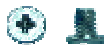
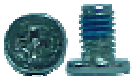
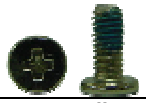
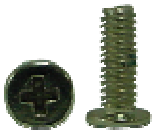
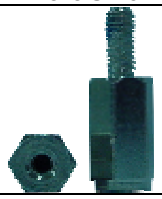
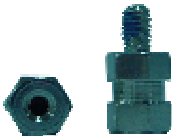
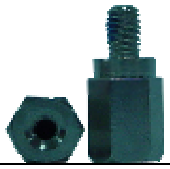
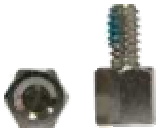
2. Carefully remove the speaker assembly from bottom base and put it aside.

DIP Switch Setting

Dip Switch	Description	Seeting
SW1 Bit1	Keyboard Select1	Refer to the below table
SW1 Bit2	Keyboard Select2	Refer to the below table
SW2 Bit1	CMOS password	ON: Password Override OFF: Normal (Default)
SW2 Bit2	Security	ON : Security By Pass OFF: Security Mode
SW3 Bit1	Mobo ID	Reserved
SW3 Bit2	DVDSEL	ON: Default CD-ROM CD-224E-CN4 CD-ROM CRN8245B-ANCB17 CR-RW UJDA360NE3-Z DVD-ROM SDC2612-NEN-MJ

Bit 1	Bit 2	Keyboard code
OFF	OFF	JP Keyboard (Lavie)
ON	OFF	US Keyboard
OFF	ON	UK Keyboard
ON	ON	JP Keyboard (Versa Pro)

Screws

			
M2x3 Silver	M2.4x4.5 Silver	M2.5x5 Silver	M2.5x7 Silver
			
M2.5x4 Silver	M2x7.5 Silver	M5x16 Silver	M2x10 Silver
M3x4 Black	M2x3 Black	M2x3.5 Silver	M2.5x5 Silver
			
M2x4 Silver	M5x6 Silver	M5x18 Silver	M5x17 Silver
			
M5x12 Silver	M2.5x10 Silver		

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Versa M320 Disassembly Manual

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